

Amendment to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) An optical disk system comprising at least one photo detector comprising several sub-detectors for detecting at least a part of said optical disk, said several sub-detectors of said at least one photo detector generating respective detection signals in response to said detection, each of said respective detection signals being output to only one of several circuits of the optical disk system, each circuit having an input directly coupled to a respective output of only one of said several sub-detectors for receiving said detection signals, said several circuits comprised of at least one amplifier for amplifying detection signals and comprising at least one slicer for slicing amplified detection signals, the system further comprising at least one delay-difference detector for detecting delay differences in sliced amplified detection signals, characterized in that said delay-difference detector is delaylineless and comprises combinatorial-logic circuits and sequential-logic circuits, said combinatorial-logic circuits for receiving output signals from said several sub-detectors and for generating signal pairs to be supplied to one of a first pair or a second pair of sequential logic circuits, said sequential logic circuits generating sequential logic circuit output signal pairs to be supplied directly to at least one analog adder/subtractor for adding/subtracting said sequential logic circuit output signal pairs.

2. (Currently Amended) An optical disk system according to claim 1, wherein said delay-difference detector comprises a first pair of sequential-logic circuits for detecting delay differences between rising edges and a second pair of sequential-logic circuits for

detecting delay differences between falling edges, wherein said first pair of sequential-logic circuits detects delay difference between rising edges and the second pair of sequential-logic circuits detects delay differences between falling edges.

3. (Cancelled)

4. (Currently Amended) An optical disk system according to claim 3, wherein said delay-difference detector comprises at least one low pass filter coupled to an output of said at least one analog adder/~~subtractor~~subtractor.

5. (Cancelled)

6. (Previously Presented) A delay-difference detector for use in an optical disk system comprising at least one photo detector comprising several sub-detectors for detecting at least a part of said optical disk, said several sub-detectors of said at least one photo detector generating respective detection signals in response to said detection, each of said respective detection signals being output to only one of several circuits, each circuit having an input directly coupled to a respective output of only one of said several sub-detectors for receiving said detection signals, each of said several circuits comprising at least one amplifier for amplifying detection signals and comprising at least one slicer for slicing amplified detection signals and comprising at least one delay-difference detector for detecting delay differences in sliced amplified detection signals, wherein said delay-difference detector is delaylineless and comprises combinatorial-logic circuits and sequential-logic circuits, said combinatorial-logic circuits for receiving output signals from said several sub-detectors and for generating signal pairs to be supplied to one of a first pair or a second pair of sequential logic circuits, said sequential logic circuits generating sequential logic circuit output signal pairs to be supplied directly to at least one analog adder/subtractor for adding/subtracting said sequential logic circuit output

signal pairs.

7. (Currently Amended) A delay-difference ~~Delay-difference~~-detector according to claim 6, wherein said delay-difference detector comprises a first pair of sequential-logic circuits for detecting delay differences between rising edges and comprises a second pair of sequential-logic circuits for detecting delay differences between falling edges, wherein said first pair of sequential-logic circuits detects delay difference between rising edges and the second pair of sequential-logic circuits detects delay differences between falling edges.

8. (Cancelled)

9. (Previously Presented) A method for use in an optical disk system for providing delay-difference detection without requiring delaylines, comprising the steps of:

detecting at least a part of said optical disk using at least one photo detector comprised of at least several sub-detectors;

generating detection signals from said at least several sub-detectors, responsive to said detection;

outputting a respective one of said detection signals from said at least several sub-detectors to only one of at least several circuits of said optical disk system;

independently amplifying said detection signals from each of said at least several sub-detectors to generate amplified detection signals;

slicing said amplified detection signals to generate sliced amplified detection signals; and

detecting delay differences in said sliced amplified detection signals;

wherein said detecting step of detecting delay differences is delaylineless and comprise combinatorial logic circuits and sequential logic circuits, said combinatorial-logic circuits for receiving output signals from said several sub-detectors and for generating signal pairs to be supplied to one of a first pair or a second pair of sequential logic circuits, said sequential logic circuits generating sequential logic circuit output signal pairs to be supplied directly to at least one analog adder/subtractor for adding/subtracting said sequential logic circuit output signal pairs.

10. (Previously Presented) A Method according to claim 9, wherein said step of detecting delay differences in said sliced amplified detection signals further comprises: detecting delay differences between rising edges and ~~of~~ detecting delay differences between falling edges in said sliced amplified detection signals.

11. (Cancelled)

12. (New) An optical disk system comprising at least one photo detector further comprising several sub-detectors for detecting at least a part of said optical disk, said several sub-detectors of said at least one photo detector generating respective detection signals in response to said detection, each of said respective detection signals being output to only one of several circuits of the optical disk system, each circuit having an input directly coupled to a respective output of only one of said several sub-detectors for receiving said detection signals, said several circuits comprised of at least one amplifier for amplifying detection signals and comprising at least one slicer for slicing amplified detection signals, the system further comprising at least one delay-difference detector for detecting delay differences in sliced amplified detection signals, characterized in that said delay-difference detector is delaylineless and comprises combinatorial-logic circuits and sequential-logic circuits, said combinatorial-logic circuits for receiving output signals from said several sub-detectors and for generating signal pairs to be supplied to one of a

first pair or a second pair of sequential logic circuits, said sequential logic circuits generating sequential logic circuit output signal pairs to be supplied directly to at least one low pass filter, said at least one low pass filter outputting filtered sequential logic circuit output signal pairs directly to at least one analog adder/subtractor for adding/subtracting said filtered sequential logic circuit output signal pairs.